SECTION 3

Quality of care in the Medicare program

Chart 3-1. Hospital mortality decreased from 1998 to 2003

Diagnosis or procedure	Risk-adjusted rates per 10,000 1998	2002	2003	Percent change 1998—2003	Number of cases in 2003
In-hospital mortality					
Pneumonia	1,032	949	876	–15.2%	72,160
AMI	1,477	1,309	1,205	–18.4	39,549
Stroke	1,240	1,159	1,081	–12.8	36,018
CHF	585	474	409	–30.1	36,100
GI hemorrhage	434	355	319	–26.5	10,624
CABG	522	427	399	–23.6	7,768
Craniotomy	963	930	881	–8.5	3,383
AAA repair	1,178	1,130	1,096	–7.0	1,857
30-day mortality					
Pneumonia	1,531	1,557	1,543	0.8	123,792
AMI	1,792	1,690	1,644	–8.3	53,571
Stroke	1,808	1,807	1,812	0.3	58,814
CHF	1,006	907	884	–12.1	72,252
GI hemorrhage	718	649	638	–11.2	20,399
CABG	496	412	399	–19.6	7,608
Craniotomy	1,158	1,182	1,155	–0.2	4,374
AAA repair	1,116	1,072	1,047	–6.2	1,786

Note: AMI (acute myocardial infarction), CHF (congestive heart failure), GI (gastrointestinal), CABG (coronary artery bypass graft), AAA (abdominal aortic aneurysm). Rate is for discharges eligible to be counted in the measure.

Source: MedPAC analysis of MedPAR discharges using Agency for Healthcare Research and Quality indicators and methods.

- Rates of in-hospital mortality decreased between 1998 and 2003 on all conditions and procedures measured. The most substantial improvements occurred for congestive heart failure, gastrointestinal hemorrhage, and coronary artery bypass graft.
- Thirty-day mortality (as measured from admission) has generally decreased, though the rate of mortality following pneumonia, the most common precedent of mortality among the measures we examined, and stroke rose over the period.
- However, 30-day mortality (as measured from admission) decreased more slowly than inpatient mortality between 1998 and 2003.

Chart 3-2. Hospital processes of care improving, but many rates still low, 2001–2003

Indicator	State median rate: Baseline 2001 Q1-Q3	State median rate: 2003 Q3	Difference
AMI			
Aspirin at arrival	82.2%	88.1%	5.9
Aspirin prescribed at discharge	84.0	90.1	6.1
ACEI for LVSD*	65.0	68.7	3.7
Adult smoking cessation advice/counseling	42.2	53.3	11.1
Beta blocker prescribed at discharge	71.4	87.3	15.9
Beta blocker at arrival	62.1	79.4	17.3
Heart failure			
Appropriate discharge instructions	3.2	9.2	6.0
LVF assessment	71.2	78.6	7.4
ACEI for LVSD*	67.9	63.6	–4.3
Adult smoking cessation advice/counseling	28.3	38.3	10.0
Pneumonia			
Initial antibiotic received within 4 hours of hospital arrival	61.9	65.6	3.7
Initial antibiotic selection for community-acquired pneumonia	59.8	73.2	13.4
Blood cultures performed within 24 hours prior to or after hospital	63.2	63.9	0.7
Blood cultures performed before first antibiotic received in hospital	82.4	82.9	0.5
Influenza immunization	13.3	N/A	N/A
Pneumococcal immunization	16.3	33.1	16.8
Adult smoking cessation advice/counseling	N/A	41.7	N/A
Oxygenation assessment	95.5	99.0	3.5
SIP			
Prophylactic antibiotic received within 1 hour prior to surgery	47.3	63.2	15.9
Prophylactic antibiotic selection	91.9	91.9	0.0
Prophylactic antibiotic discontinued within 24 hours after surgery	42.0	40.8	–1.2

Note: AMI (acute myocardial infarction), ACEI (angiotensin-converting enzyme inhibitor), LVSD (left ventricular systolic dysfunction), LVF (left ventricular function), SIP (surgical infection prevention). CMS calculated each state rate and MedPAC calculated the state median rates.
* During this time period clinicians began to use another drug therapy for this condition, replacing ACEIs in some cases.

Source: MedPAC analysis of CMS data from the quality improvement organization program.

- The rates reflect the percentage of beneficiaries receiving clinically indicated services (100 percent is the goal on the measures).
- Of the measures that had rates for both periods, 17 out of 19 improved. One of the measures that decreased (the ACEI for LVSD for heart failure) may have decreased due to a change in clinical practice.
- Many of the rates remain too low. This is particularly true of the newer measures, such as whether patients discharged for heart failure were given appropriate discharge instructions, or whether prophylactic antibiotics were discontinued within 24 hours after surgery.

Chart 3-3. Safety of care: Adverse events affect many hospitalized beneficiaries, 1998–2003

	Risk-adjusted rates per 10,000				Change in rate, 1998 to 2003	Observed adverse events, 2003
	1998	2000	2002	2003		
Decubitus ulcer	206	225	251	267	61	151,376
Failure to rescue	1,462	1,450	1,330	1,225	–237	65,216
Postoperative PE or DVT	62	71	86	92	30	39,417
Accidental puncture/ laceration	31	32	36	34	3	37,717
Infection due to medical care	20	20	24	25	6	32,166
Iatrogenic pneumothorax	9	8	8	8	–1	11,040
Postoperative respiratory failure	25	34	46	50	25	10,208
Postoperative sepsis	80	97	111	120	40	8,125
Postoperative hemorrhage or hematoma	21	20	17	17	–4	7,589
Postoperative physiologic and metabolic derangement	4	5	6	7	3	2,418
Postoperative wound dehiscence	18	14	15	13	–4	1,990
Postoperative hip fracture	3	3	3	3	0*	1,113

Note: PE (pulmonary embolism), DVT (deep vein thrombosis). Rate is for discharges eligible to be counted in the measure. *Increase not apparent due to rounding.

Source: MedPAC analysis of 100 percent of MedPAR discharges using Agency for Healthcare Research and Quality indicators and methods.

- From 1998 to 2003, 8 of 12 rates of adverse events experienced by hospitalized Medicare beneficiaries increased.
- Four of the indicators have decreasing rates; these include failure to rescue, one of the most common and—because it results in death—most severe.

Chart 3-4. Rates of potentially avoidable admissions, 2001–2003

	2001 (per 10,000)	2003 (per 10,000)	Difference (per 10,000)
Congestive heart failure	1,052	1,077	25*
COPD/Asthma	768	735	–33
Diabetes long-term complications	193	178	–15
Diabetes short-term complications	44	35	–9
Hypertension	26	24	–2
Unstable angina/ED**	13	9	–4

Note: COPD (chronic obstructive pulmonary disease). ED (emergency department). The group studied excludes those under 65, in Medicare Advantage plans, hospice users, anyone not continuously enrolled for one of two time periods (2000–2001 or 2002–2003), or those living outside the United States.
*Not a statistically significant result. All others are statistically significant at the 5 percent level or below.
**This measures visits to the emergency department, not admissions.

Source: MedPAC analysis of 5 percent sample of beneficiaries' outpatient and inpatient claims for 2001 and 2003.

- Potentially avoidable admissions are admissions that high quality ambulatory care has been shown to prevent. The populations measured are those with a diagnosis previous to the admission for the condition, not the overall population. For example, this table counts the percent of Medicare beneficiaries with chronic heart failure who were admitted to the hospital.

- With the exception of congestive heart failure, all rates of potentially avoidable admissions (for persons with these conditions) decreased.

- Notable, given the amount of emphasis CMS and others have placed on improving diabetes care, is the decrease in potentially avoidable admissions for beneficiaries with diabetes, both for long- and short-term complications.

- It is also notable that persons with hypertension were hospitalized less, given that the prevalence of hypertension has increased.

Chart 3-5. Outside the hospital, processes of care are improving, but rates are still low, 2001–2003

Process	2001 State median rate	2003 Q3 State median rate	Difference
Adult immunization			
Influenza	72	73	1
Pneumonia	65	67	2
Breast cancer			
Mammography	60	59	–1
Diabetes			
HgbA1c	77	82	5
Eye exam	69	69	0
Lipid profile	75	83	8

Note: HgbA1c (hemoglobin A1c). CMS calculated each state rate and MedPAC calculated the state median rates.

Source: MedPAC analysis of CMS data from the quality improvement organization program.

- The rates reflect the percentage of beneficiaries receiving clinically indicated services (a perfect performance is 100 percent).
- Care has improved on four of six measures of ambulatory care used between 2001 and 2003.
- Because significant numbers of Medicare beneficiaries are still not receiving services necessary to manage a chronic condition or prevent acute episodes, many opportunities for further improvement exist.

Chart 3-6. Patient-centeredness of care: Beneficiaries rate interactions with health care providers highly

Question	2000	2001	2002	2003
Do you have a personal doctor or nurse?				
Yes	N/A	89.0%	89.0%	88.0%
Care (Percent who rated provider 8 or higher on a scale of 0 to 10)				
How would you rate your personal doctor or nurse?	84.7	83.6	83.7	84.6
How would you rate the specialist you saw most often in the last 6 months, including a personal doctor if he or she is a specialist?	85.5	83.3	84.4	85.3
How would you rate all the health care you got in the last 6 months from all doctors and other health providers?	85.4	84.8	85.2	85.3
Quality of interactions				
In the last 6 months, how often did doctors or other health providers:				
Usually or always listen carefully to you?	94.8	94.8	94.6	95.0
Usually or always explain things in a way you could understand?	93.4	93.7	93.8	94.3*
Usually or always show respect for what you had to say?	94.9	94.7	94.8	95.2*
Usually or always spend enough time with you?	91.1	90.9	90.6	91.1

Note: *Indicates a statistically significant change between 2000 and 2003, at a 95 percent confidence level ($p<0.05$). Percentages may not sum to 100 due to rounding.

Source: MedPAC analysis of Consumer Assessment of Health Plans Survey (CAHPS) for fee-for-service Medicare, 2000–2003.

- More than 80 percent of beneficiaries gave a rating of 8 or higher on a scale of 0 to 10 (10 being the highest) to their personal doctor or nurse and the specialist that they saw most often in the last 6 months. The same was true for all the health care they received in the last 6 months.

- They also highly rate the quality of interactions with their doctor or other health provider. For example, in 2003, between 94 and 95 percent of beneficiaries reported that their doctors or other health care providers usually or always listened carefully to them, explained things in a way that they could understand, and showed respect for what they had to say.

Chart 3-7. Post-hospital acute care episodes ended differently across settings and over time

		Percent of Episodes				
	Year	Died	Lived, entered hospice	Lived, no hospice, readmitted	Returned home	Potentially avoidable readmissions as a fraction of all readmissions
All Episodes						
	1996	8%	1%	13%	78%	0.27
	1999	9	1	15	75	0.29
	2002	10	1	15	74	0.27
Episodes with only one post-acute setting						
HHA	1996	6	1	13	80	0.30
	1999	6	1	14	79	0.32
	2002	6	1	10	83	0.28
SNF	1996	21	1	22	56	0.26
	1999	20	2	23	56	0.27
	2002	18	2	25	54	0.28
Long term care hospital, IRF, or psychiatric hospital	1996	6	0	17	76	0.18
	1999	8	0	18	74	0.20
	2002	8	1	18	73	0.21
Episodes with two or more post-acute settings						
SNF + HHA	1996	5	1	11	84	0.27
	1999	4	1	12	83	0.31
	2002	5	1	9	85	0.30
Other	1996	16	1	16	67	0.28
	1999	16	1	18	65	0.30
	2002	15	2	17	66	0.30

Note: HHA (Home health agency), SNF (skilled nursing facility), IRF (inpatient rehabilitation facility). Other includes all episodes that included more than one post-acute setting, other than the combination of SNF and HHA, which is noted separately.

- Though there were dramatic changes in payment systems throughout post-acute care between 1996 and 2002, there is little change in episode termination. In fact, the overall rates of potentially avoidable readmissions as a percent of all admissions were the same in 1996 and 2002.
- These data must be interpreted with caution because they have not been adjusted to account for differences in patient populations across settings.

Chart 3-8. SNF patients' adjusted readmission rates for five potentially preventable conditions have increased

Condition	1999	2000	2001	2002
Electrolyte imbalance	3.7%	3.7%	4.1%	4.0%
Respiratory infection	3.0	2.9	3.1	3.2
Congestive heart failure	3.2	3.3	3.7	3.7
Sepsis	1.2	1.2	1.3	1.3
Urinary tract infection	2.1	2.2	2.4	2.4

Note: Data for 2002 are based on stays beginning between January and May 2002; results from other years reflect a full year of data. These rates were calculated using all Medicare SNF stays and are controlled for diagnosis and functional severity of patients.

Source: MedPAC analysis of Medicare claims data. To perform this analysis, MedPAC used a program developed by Andrew M. Kramer, MD, and Ron Fish, MBA, at the Center on Aging, University of Colorado Health Sciences Center.

- Researchers developed these specific indicators because they are affected by nurse staffing levels, are of a sufficiently high incidence to be stable, can be adjusted for risk, and have data available to measure their incidence.

Chart 3-9. Home health users experienced small improvements in outcomes, 2002–2004

Measure	June–May 2002–2003	June–May 2003–2004
Improvement in:		
walking around	34%	36%
getting out of bed	49	51
toileting	60	62
bathing	57	60
managing oral medications	35	38
getting dressed	62	65
Stabilization at bathing	91	92
Patients have less pain	57	59
Patients who are confused less often	40	42

Note: Scores are percent of patients with less than perfect scores who showed any improvement or patients with more than minimum scores who did not decline (stabilization).

Source: 2003 and 2004 Home Care Compare from CMS.

- Each measure of quality from CMS's public website Home Health Compare has shown small improvement.
- More information is available at www.medicare.gov/Hhcompare/Home.asp.

Chart 3-10. The quality of dialysis care has generally improved

Outcome measure	1999	2000	2001	2002
Percent of in-center hemodialysis patients:				
Receiving inadequate dialysis	16	14	11	11
With low anemia levels	32	26	24	21
Who are malnourished	20	20	18	19
Dialyzed with an AV fistula	27	30	31	33 *
Percent of peritoneal patients:				
Receiving inadequate CAPD	32	31	32	29
Receiving inadequate CCPD	35	38	30	34
With low anemia levels	31	27	24	21
Who are malnourished	44	44	39	40

Note: AV (arteriovenous), CAPD (continuous ambulatory peritoneal dialysis), CCPD (continuous cycler-assisted peritoneal dialysis). The two predominant types of peritoneal dialysis are CAPD and CCPD.
*An increase on this measure indicates improved quality, as opposed to the other measures, where a decrease indicates improved quality.

Source: Compiled by MedPAC from 1999–2003 *Annual Reports for ESRD Clinical Performance Measures Project* from CMS.

- The quality of dialysis care has improved on some measures. Between 1999 and 2002, the proportion of both hemodialysis and peritoneal patients receiving inadequate dialysis and having low anemia levels declined.

- Nutritional care is a clinical area in which substantial improvements in quality are needed. The proportion of hemodialysis and peritoneal dialysis patients who are malnourished has remained relatively constant during this time.

- All hemodialysis patients require vascular access—the site on the patient's body where blood is removed and returned during dialysis. Vascular access care is another clinical area in which substantial improvements in quality are needed. Use of arteriovenous (AV) fistulas, considered the best type of vascular access, increased from 27 to 33 percent of hemodialysis patients between 1999 and 2002. However, this rate still falls short of recommended care. Clinical guidelines recommend that at least 40 percent of all hemodialysis patients have an AV fistula.

- More information about Medicare's quality initiatives for dialysis care can be found on the CMS website, available at http://www.cms.hhs.gov/esrd/3.asp.

Chart 3-11. Plans improve, but rates are still low on some measures, 2000–2003

Measure	2000	2001	2002	2003
Advising smokers to quit	59.7%	60.8%	61.5%	63.3%*
Beta-blocker treatment after heart attack	89.3	92.9	93.0	92.9*
Breast cancer screening	73.9	75.3	74.5	74.0
Cholesterol management				
Control	52.9	58.4	62.3	66.7*
Screening	70.6	75.5	77.7	81.0*
Controlling high blood pressure	46.7	53.6	56.9	61.4*
Comprehensive diabetes care				
Eye exams	62.8	66.0	68.4[c]	64.9[c]
HbA1c testing	82.5	85.7	85.0	87.9*
Lipid control	50.9	57.5	62.6	67.7*
Lipid profile	80.5	85.7	87.9	91.1*
Monitoring diabetic nephropathy	45.0	51.9	57.3[c]	53.6[c]
Poor HbA1c control[a]	33.4[a]	26.8[a]	24.5[a]	23.4*
Antidepressant medication management[b]				
Acute phase	N/A	51.3	52.1	53.3[d]
Continuation phase	N/A	36.8	37.7	39.2[d]
Contacts	N/A	11.9	10.8	10.5[d]
Follow-up after hospitalization for mental illness				
Less than 7 days	37.5	37.2	38.7	38.8
Less than 30 days	59.3	60.6	60.6	60.3

Note: HbA1c (hemoglobin A1c). N/A (not available). Rates refer to patients for whom the treatments were clinically indicated.
* The changes between 2000 and 2003 on these indicators are statistically significant.
[a] Lower rates are better than higher ones for this measure.
[b] Acute phase refers to the percent of patients receiving effective treatment after a new episode. Continuation refers to the percent of patients remaining on antidepressant continuously for six months after initial diagnosis. Contacts refers to the percent of patients who received at least 3 follow-up office visits in a 12-week acute phase.
[c] The definition of these measures changed in 2003, making comparisons difficult.
[d] These rates were not compared from 2000 because no rate existed in 2000.

Source: National Committee For Quality Assurance 2003, *The State of Health Care Quality*. Washington, DC: NCQA.

- Nine out of the 12 measures that are comparable between 2000 and 2003 improved. None went down, but three of the indicators did not improve at a statistically significant rate.
- Because many Medicare beneficiaries in MA plans are still not receiving clinically indicated services, opportunities for further improvement exist.

Chart 3-12. Patient experience scores: comparison of MA and FFS

Measure	MA			FFS		
	2001	2002	2003	2001	2002	2003
No or small problem getting care when needed	94%	93%	94%	97%	95%	95%
Usually or always got care without long waits	87	81	83	87	81	84
Doctors in health plan usually or always communicate well	93	93	93	94	94	94
None or small problem seeing a specialist	N/A	92	92	N/A	95	95
Rated health care overall 8–10	84	84	84	84	85	86
Rated health plan 8–10	77	76	70	78	77	69

Note: MA (Medicare Advantage), FFS (fee-for-service), N/A (not available). The ratings on the last two indicators show the percentage of beneficiaries who gave ratings of 8 or higher on a scale of 0 to 10.

Source: 2001–2003 Consumer Assessment of Health Plans Survey (CAHPS) data for Medicare Advantage plans and the fee-for-service program from CMS.

- FFS beneficiaries were asked to rate Medicare as a health plan, while MA beneficiaries were asked to rate the plan in which they were enrolled.
- Beneficiaries' ratings of satisfaction with FFS and MA are generally similar and are stable over time.
- Most beneficiaries report obtaining care when they need it and do not report long waits.
- Overall health plan ratings for both MA and FFS plans declined between 2002 and 2003.

Web links. Quality of care in the Medicare program

- Chapter 2 of the MedPAC March 2004 Report to the Congress includes and discusses in further detail information similar to that included in many of these charts.

  http://www.medpac.gov/publications/congressional_reports/Mar04_Ch2.pdf

- Chapter 2 of the MedPAC March 2005 Report to the Congress includes further information on quality in hospitals, skilled nursing facilities, home health agencies, and outpatient dialysis services.

  http://www.medpac.gov/publications/congressional_reports/Mar05_Ch02.pdf

- Chapter 4 of the MedPAC March 2005 Report to the Congress outlines strategies to improve care through pay for performance incentives and information technology.

  http://www.medpac.gov/publications/congressional_reports/Mar05_Ch04.pdf

- The CMS website provides further information on CMS quality initiatives.

  http://cms.hhs.gov/quality

- The Commonwealth Fund published a chart book with information on Medicare quality in the Spring of 2005.

  http://www.cmwf.org